

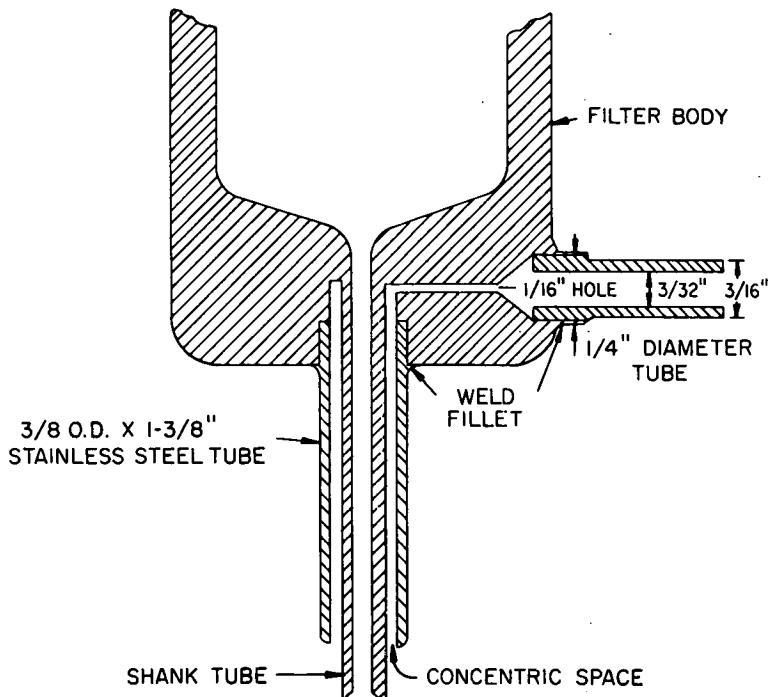
# NASA TECH BRIEF

## *Manned Spacecraft Center*



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### Modifications to a Vacuum Assisted Filtering Device to Minimize Contamination



Vacuum Assisted Filter Unit

A commercially available high purity filter unit has been modified to save time and expense in laboratory operations and to improve the purity of the liquids processed.

The preparation of particle-free liquids, such as solvents for washing silicon microcircuits and other delicate electronic components invariably presents difficulties. Filtration is recognized to be the simplest

technique available. Depending on the viscosity of the liquid being filtered and the pore size of the filter, however, filtration can be a time-consuming process unless the process is "assisted" by the application of pressure or a vacuum. Pressure filtering is sometimes useful for the filtration of viscous liquids, but vacuum filtering is the most convenient method of purifying low viscous liquids.

(continued overleaf)

A glass Erlenmeyer site tube flask is the customary apparatus for vacuum filtration. Unfortunately, such fragile flasks are expensive, difficult to keep clean, and as they are only used as transfer vessels the logical solution is a filtering device equipped with a vacuum connection which will perform the function of the Erlenmeyer flask.

A commercial filter unit (supplied by the Millipore Corp., Bedford, Mass.) has been modified to embody the vacuum requirement described. A cross-section of the filter body and details of the modification is illustrated in the Figure.

Experience has shown that any but the most viscous liquids can be processed by the modified unit equipped with the appropriate filter medium. Moreover, its use eliminates much of the tediousness of cleaning glassware.

#### Note:

Requests for further information may be directed to:

Technology Utilization Officer  
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Reference: TSP71- 10277

#### Patent status:

No patent action is contemplated by NASA.

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Manned Spacecraft Center  
(MSC-13733)